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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,784	09/17/2003	Yasunobu Shirata	242914US2	2972
22850	7590	06/04/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER GE, YUZHEN	
			ART UNIT 2624	PAPER NUMBER
			NOTIFICATION DATE 06/04/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/663,784	SHIRATA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yuzhen Ge	2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6-11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/23/2007</u> .   | 6) <input type="checkbox"/> Other: _____                          |

***Examiner's Remark***

Applicant's amendment, filed on April 23, 2007, has been received and entered into the file. The objection to specification has been overcome in view of applicant's amendments/remarks and is hereby withdrawn. Claim 13 is new. Claims 4, 5 and 12 have been canceled. Claims 1-3, 6-11 and 13 are pending.

Applicant's arguments with respect to independent claims have been considered but are moot in view of the new ground(s) of rejection.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. Claims 1-3, 6-7, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (US Patent 5,589,954) in view of DeLean (US Patent 6,301,025).

Regarding claims 1, 7, and 13, Watanabe teaches an image processing apparatus and the corresponding method, comprising:

an acquiring unit configured to acquire an image data corresponding to an image (Fig. 20, col. 37, lines 53-57, 111 in Figs. 44 and 45);

a determining unit configured to store determine image characteristics of areas in an image data corresponding to an image, and to generate area data corresponding to each of the area (Fig. 20, 112 in Figs. 44 and 45, col. 36, lines 48-59, col. 37, lines 20-32, lines 57-66);

a memory configured to store the image data and the area data in a correlated manner (Fig. 20, Figs. 43-46, an area data corresponds to an image data, col. 3, lines 61-65, col. 4, lines

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30-33, col. 6, lines 10-17, ROM is one type of memory, col. 8, lines 56-61, col. 26, lines 1-2, lines 13-19, lines 34-39, col. 36, lines 22-24);

an image processing unit including a gamma correction unit, a color correction unit, and a gradation processing unit (Figs. 20, 41-42, and 44-45), wherein

said gamma correction unit is configured to effect a gamma correction on specific image data stored in the memory based on processing conditions set for the area data correlated with the specific image data (Fig. 20, Figs. 41-42, 44 and 45, col. 36, lines 48-59, col. 37, lines 20-32, lines 57-66),

said color correction unit is configured to convert the specific image data from RGB image data to CMYK image data based on a setting of parameters, the parameters being based on the area data correlated with the specific image (col. 12, lines 31-33, Figs. 20, 33, 44 and 45, col. 34, lines 57-67, col. 35, lines 53-67, col. 36, lines 48-59, col. 37, lines 57-66, col. 38, lines 35-48);

said image gradation processing unit is configured to effect a gradation processing on the specific image data based on the area data correlated with the specific image data (dither processing such as in Figs. 44 and 45 can be regarded as gradation processing, col. 37, lines 64-col. 38, line 34);

a transmission unit that sends the image data to an external device (39-40 in Fig. 20, Figs. 44-45).

However they do not explicitly teach

said color correction unit is configured to convert the specific image data from CMYK image data to RGB image data;

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an image format conversion unit configured to convert a file format of the RGB image data processed by the image processing unit into a general-purpose format.

In the same field of endeavor, DeLean teaches convert an image data from CMYK image data into RGB image data and the data is saved as an image file in a computer and therefore is regarded as a general purpose format (col. 1, lines 30-48, col. 2, lines 38-46, col. 3, lines 20-39, lines 53-65). A monitor in a computer uses RGB format (abstract of DeLean) and therefore it is necessary to save an image file in a general format so that a computer can display the image by a monitor (Fig. 1 of DeLean). An image is converted to a general-purpose format routinely in computer systems so that it can be processed and display by a computer (office notice). It is desirable to effectively perform intermediate processing on color images that are in CMYK format (col. 1, lines 30-48 of DeLean). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to convert an image data from CMYK image data to RGB image data and convert a file format of the RGB unit into a general purpose format so that the processing is effective and an RGB monitor on a computer can display the image.

Regarding claim 2, Watanabe and DeLean teach the image processing apparatus according to claim 1. Watanabe further teaches wherein the image characteristics include one or more of character, photograph, color, and presence of halftone (col. 36, lines 47-55, col. 37, lines 57-64).

Regarding claim 3, Watanabe and DeLean teach the image processing apparatus according to claim 2. Watanabe further teaches wherein the image characteristics is any one or more of the

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character and the photograph (col. 36, lines 47-59, Figs. 44 and 45, col. 37, lines 57-66, col. 38, lines 35-48).

Regarding claim 6, Watanabe and DeLean teach the image processing apparatus according to claim 1. Watanabe further teaches the apparatus comprising an image formation unit configured to form an image on a recording medium based on the image data stored in the memory (col. 1, lines 30-32, Figs. 6 and 22, col. 23, lines 31-34, the image formation unit is a printer).

Regarding claim 10, Watanabe and DeLean teaches the image processing apparatus according to claim 7. Watanabe further teaches wherein the image characteristics is a character (col. 36, lines 47-59, Figs. 44 and 45, col. 37, lines 57-66, col. 38, lines 35-48).

2. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe and DeLean in view of Aoyagi et al (US Patent 5,982,999).

Regarding claim 8, Watanabe and DeLean teach the image processing apparatus according to claim 2. Watanabe further teaches wherein the image characteristics is any one or more of the character and the photograph (Fig. 20, 112 in Figs. 44 and 45, col. 36, lines 48-59, col. 37, lines 57-66) and color correction and gradation correction (Figs. 40 and 41). However Watanabe and DeLean do not explicitly teach a filtering unit configured to subject the image data corresponding to the image characteristics to filter processing. In the same field of endeavor, Aoyagi et al teach color correction and gradation processing based on the image characteristics

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and a filtering unit configured to subject the image data corresponding to the image characteristics to filter processing (Fig. 3, 306-310, col. 7, line 53-col. 8, line 12). It is desirable to perform efficient and high quality reproduction of images by adapting correction and adjustment according to the image characteristics by current technology and filtering is common way of performing corrections as taught by Watanabe. Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the method of Aoyagi et al to perform color correction, gradation correction and filtering based on the image characteristic so that processing is more efficient and the resulted image quality is better.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe and DeLean in view of Tabata et al (US Patent 6,993,181).

Regarding claim 9, Watanabe and DeLean teach the image processing apparatus according to claim 7. Watanabe further teaches wherein the image data acquired by the acquiring unit includes Red, Green, and Blue color components, the image area separation unit separates an image area corresponding to characters from the image data (Figs. 20, 44 and 45, col. 36, lines 48-59, col. 37, lines 57-66). However Watanabe and DeLean do not explicitly teach the character is black and the image processing unit adjusts the Red, Green, and Blue color components forming the image data in the separated image area of the black characters so that the components have the same value. In the same field of endeavor, Tabata et al teach identifying an image area corresponding to black characters and the image processing unit adjusts the Red, Green, and Blue color components forming the image data in the separated

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image area of the black characters so that the components have the same value (Figs. 8, 14, 16, col.4, lines 19-30). It is desirable to eliminate image degradation such as coloring (col. 4, lines 27-30 of Tabata et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to correct the black characters so that image degradation during coloring can be eliminated.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe and DeLean in view of Bhattacharjya et al (US Patent 6,546,132).

Regarding claim 11, Watanabe and DeLean teach the image processing apparatus according to claim 7. Watanabe further teaches wherein the image data acquired by the acquiring unit includes Red, Green, and Blue color components, the image area separation unit separates the image area corresponding to a character area/white background from the image data (Figs. 20, 44 and 45, col. 36, lines 48-59, col. 37, lines 57-66, implicit that a character area has white background or document has white background). However they do not explicitly teach that the image-processing unit adjusts the Red, Green, and Blue color components forming the image data on the separated white background image area so that the components have the same value. In the same field of endeavor, Bhattacharjya et al teach an image processing unit adjusts the Red, Green, and Blue color components forming the image data on the separated white background image area so that the components have the same value (col. 5, lines 32-46). It is desirable to improve background production and reduce bleed-through artifacts (abstract of Bhattacharjya et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of



invention, to use the method of Bhattacharjya et al to adjust the color of white background so that the bleed-through artifacts can be reduced and background production can be improved.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

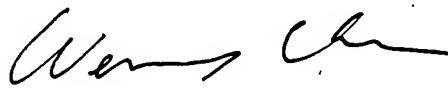
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge  
Examiner  
Art Unit 2624

WENPENG CHEN  
PRIMARY EXAMINER

  
5/23/07